

CLAIMS

1. An apparatus in a code division multiple access (CDMA) communication network, comprising:

a message processor operative to process a first signaling message received from a base station in the CDMA network; and

a controller operative to obtain a network operator identifier from the first signaling message, search a preferred roaming list for an entry with the network operator identifier, and provide an indication of whether or not the CDMA network is accessible based on result of the search, wherein the network operator identifier distinctly identifies a network operator of the CDMA network.

2. The apparatus of claim 1, wherein the message processor is further operative to process a second signaling message received from the base station, and wherein the controller is further operative to extract a system identification (SID) value and a network identification (NID) value from the second signaling message and compare the extracted SID and NID values against SID and NID values stored in the preferred roaming list.

3. The apparatus of claim 2, wherein the controller is operative to obtain the network operator identifier and search the preferred roaming list only if the extracted SID and NID values do not match the SID and NID values stored in the preferred roaming list.

4. The apparatus of claim 1, wherein, to search for the network operator identifier in the preferred roaming list, the controller is operative to encode the network operator identifier into a system identification (SID) value and a network identification (NID) value and compare the encoded SID and NID values against SID and NID values stored in the preferred roaming list.

5. A method of performing system selection in a code division multiple access (CDMA) communication network, comprising:

processing a first signaling message received from a base station in the CDMA network;

obtaining a network operator identifier from the first signaling message, wherein the network operator identifier distinctly identifies a network operator of the CDMA network;

searching a preferred roaming list for an entry with the network operator identifier; and

providing an indication of whether or not the CDMA network is accessible based on result of the searching.

6. The method of claim 5, further comprising:

processing a second signaling message received from the base station;

extracting a system identification (SID) value and a network identification (NID) value from the second signaling message; and

comparing the extracted SID and NID values against SID and NID values stored in the preferred roaming list.

7. The method of claim 6, wherein the obtaining, searching, and providing are performed only if the extracted SID and NID values do not match the SID and NID values stored in the preferred roaming list.

8. The method of claim 5, wherein the network operator identifier comprises a mobile country code (MCC) and a network operator code (NOC).

9. The method of claim 8, wherein the network operator code is a mobile network code (MNC).

10. The method of claim 5, wherein the first signaling message is a *System Parameters Message* or an *Extended System Parameters Message* defined by IS-2000, and wherein the network operator identifier is sent in an MCC field and an IMSI_11_12 field of the *System Parameters Message* or the *Extended System Parameters Message*.

11. The method of claim 10, wherein the network operator identifier comprises a 3-digit mobile country code (MCC) and a 3-digit mobile network code (MNC), and wherein two most significant digits of the MNC are sent in the

IMSI_11_12 field of the *System Parameters Message* or the *Extended System Parameters Message*.

12. The method of claim 5, wherein the searching includes encoding the network operator identifier into a system identification (SID) value and a network identification (NID) value, and comparing the encoded SID and NID values against SID and NID values stored in the preferred roaming list.

13. The method of claim 12, wherein the encoded SID value falls within a range of values excluded from assignment to network operators for system identification.

14. The method of claim 12, wherein the encoded SID value falls within a range of 26,112 to 31,103.

15. The method of claim 12, wherein the encoded SID value is 31,100 or 31,101.

16. The method of claim 5, wherein the network operator identifier indicates that the CDMA network is accessible and located in a foreign country with respect to a home network.

17. An apparatus in a code division multiple access (CDMA) communication network, comprising:

means for processing a first signaling message received from a base station in the CDMA network;

means for obtaining a network operator identifier from the first signaling message, wherein the network operator identifier distinctly identifies a network operator of the CDMA network;

means for searching a preferred roaming list for an entry with the network operator identifier; and

means for providing an indication of whether or not the CDMA network is accessible based on result of the searching.

18. The apparatus of claim 17, further comprising:
means for processing a second signaling message received from the base station;
means for extracting a system identification (SID) value and a network identification (NID) value from the second signaling message; and
means for comparing the extracted SID and NID values against SID and NID values stored in the preferred roaming list.

19. A processor readable media for storing instructions operable in a wireless device to:

process a first signaling message received from a base station in a code division multiple access (CDMA) communication network;

obtain a network operator identifier from the first signaling message, wherein the network operator identifier distinctly identifies a network operator of the CDMA network;

search a preferred roaming list for an entry with the network operator identifier;
and

provide an indication of whether or not the CDMA network is accessible based on result of the search.

20. A method of performing system selection in a code division multiple access (CDMA) communication network, comprising:

processing a *System Parameters Message* or an *Extended System Parameters Message* received from a base station in the CDMA network;

obtaining a mobile country code (MCC) value and a network operator code (NOC) value from an MCC field and an IMSI_11_12 field, respectively, of the *System Parameters Message* or the *Extended System Parameters Message*, wherein the MCC and NOC values form a network operator identifier that distinctly identifies a network operator of the CDMA network;

encoding the MCC and NOC values into a system identification (SID) value and a network identification (NID) value;

comparing the encoded SID and NID values against SID and NID values stored in a preferred roaming list; and

providing an indication of whether or not the CDMA network is accessible based on result of the searching.

21. The method of claim 20, further comprising:

extracting a SID value and a NID value from a *Sync Channel Message* or the *System Parameters Message* received from the base station;

comparing the extracted SID and NID values against the SID and NID values stored in the preferred roaming list; and

performing the obtaining, encoding, comparing, and providing only if the extracted SID and NID values do not match the SID and NID values stored in the preferred roaming list.

22. An apparatus in a code division multiple access (CDMA) communication network, comprising:

a message processor operative to process at least one signaling message received from a base station in the CDMA network;

a controller operative to obtain a set of records for a preferred roaming list from the at least one signaling message, wherein at least one record in the set of records has a system identification (SID) value that is in a set of SID values used to indicate network operator identifiers, and wherein each of the at least one record includes a network operator identifier that distinctly identifies a network operator of a CDMA network; and

a memory unit operative to store the set of records for the preferred roaming list.

23. The apparatus of claim 22, wherein the set of SID values used to indicate network operator identifiers is within a range of 26,112 to 31,103.

24. A method of updating a preferred roaming list (PRL) in a code division multiple access (CDMA) communication network, comprising:

processing at least one signaling message from a base station in the CDMA network;

obtaining a set of records for the preferred roaming list from the at least one signaling message, wherein at least one record in the set of records has a system identification (SID) value that is in a set of SID values used to indicate network operator

identifiers, and wherein each of the at least one record includes a network operator identifier that distinctly identifies a network operator of a CDMA network; and
storing the set of records for the preferred roaming list in non-volatile memory.

25. An apparatus in a code division multiple access (CDMA) communication network, comprising:

a message processor operative to map a mobile country code (MCC) value and a network operator code (NOC) value for a network operator identifier to an MCC field and an IMSI_11_12 field, respectively, of a *System Parameters Message* or an *Extended System Parameters Message*, wherein the network operator identifier distinctly identifies a network operator of the CDMA network; and

an encoder/modulator operative to process the *System Parameters Message* or the *Extended System Parameters Message* for transmission over a wireless link.

26. The apparatus of claim 25, wherein the network operator code is a mobile network code (MNC).

27. A method of transmitting a network operator identifier in a code division multiple access (CDMA) communication network, comprising:

mapping a mobile country code (MCC) value for the network operator identifier to an MCC field of a *System Parameters Message* or an *Extended System Parameters Message*;

mapping a network operator code (NOC) value for the network operator identifier to an IMSI_11_12 field of the *System Parameters Message* or the *Extended System Parameters Message*, wherein the network operator identifier distinctly identifies a network operator of the CDMA network; and

processing the *System Parameters Message* or the *Extended System Parameters Message* for transmission over a wireless link.

28. An apparatus in a code division multiple access (CDMA) communication network, comprising:

means for mapping a mobile country code (MCC) value for a network operator identifier to an MCC field of a *System Parameters Message* or an *Extended System Parameters Message*;

means for mapping a network operator code (NOC) value for the network operator identifier to an IMSI_11_12 field of the *System Parameters Message* or the *Extended System Parameters Message*, wherein the network operator identifier distinctly identifies a network operator of the CDMA network; and

means for processing the *System Parameters Message* or the *Extended System Parameters Message* for transmission over a wireless link.